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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,151	10/06/2003	Reinhard Stuber	P23910	5748

7055 7590 12/19/2006  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 ROLAND CLARKE PLACE  
RESTON, VA 20191

EXAMINER
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HINZE, LEO T

ART UNIT	PAPER NUMBER
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2854

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	12/19/2006	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 12/19/2006.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

**Office Action Summary**

Application No.

10/678,151

Applicant(s)

STUBER ET AL.

Examiner

Leo T. Hinze

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-20,22,23,25-31 and 34-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-20,22,23,25-31 and 34-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 18-20, 25, 26, 28, 34-38, 40-45, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blau et al., US 2001/0013289 A1 (hereafter Blau) in view of Garner et al., US 5,611,278 (hereafter Garner).

a. Regarding claims 18 and 34:

Blau teaches a process for printing a cigarette paper strip in a machine of the tobacco processing industry comprising a printing mechanism comprising: guiding the cigarette paper

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strip to the printing mechanism having at least one ink nozzle (53, Fig. 2) that applied printing ink between a distribution roller (43, Fig. 2) and a distribution cylinder (47, Fig. 2).

Blau does not teach adjusting a temperature of ink in at least one of the ink nozzle, and ink supply and a metering device in the printing mechanism via the tempering device; wherein the adjusting of the temperature of ink comprises adjusting a temperature of the printing mechanism with the cooling element, and cooling the printing mechanism with the cooling element when the temperature of the printing mechanism exceeds a predetermined temperature.

Garner teaches adjusting a temperature of ink in a metering device in a printing mechanism via the tempering device; wherein the adjusting of the temperature of ink comprises adjusting a temperature of the printing mechanism with the cooling element, and cooling the printing mechanism with the cooling element when the temperature of the printing mechanism exceeds a predetermined temperature (col. 1, l. 65 through col. 2, l. 10). This mechanism helps prevent the ink from obtaining a temperature beyond the desired range for waterless printing (col. 1, ll. 55-57).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Blau to include adjusting a temperature of ink in a metering device in a printing mechanism via the tempering device; wherein the adjusting of the temperature of ink comprises adjusting a temperature of the printing mechanism with the cooling element, and cooling the printing mechanism with the cooling element when the temperature of the printing mechanism exceeds a predetermined temperature, because Garner teaches that this

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helps prevent the ink from obtaining a temperature beyond the desired range for waterless printing.

b. Regarding claim 19, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above. Blau also teaches wherein the printing mechanism is located within a machine of the tobacco processing industry (§ 0001).

c. Regarding claim 20, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 19 above. Blau also teaches wherein said machine is a cigarette rod machine (§ 0001).

d. Regarding claim 25, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above. Garner, as combined with Blau above, also teaches flowing a medium through the cooling element ("circulation system," col. 2, l. 2).

e. Regarding claim 26, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above. The combination also teaches wherein at least some components of the printing mechanism are located at least partially on the cooling element, whereby the components are cooled by the cooling element, because a person having ordinary skill in the art would know that it would be logical to ensure that when including a cooling element, that at least some components are cooled by the cooling element.

f. Regarding claim 28, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above. Garner, as combined with Blau above, also teaches controlling or regulating the tempering device through a control or regulation device ("temperature control system," col. 2, l. 1).

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g. Regarding claims 35 and 42, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 18 and 34 above. The combination also teaches wherein the cooling element includes a cooling plate (there are plates used in the machine to mount the cylinders, which the cooling channels must pass through, therefore there are “cooling plates”).

h. Regarding claims 36 and 43, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 35 and 34 above. The combination also teaches wherein the cooling plate features channels (there must be some sort of channel or passthrough in the plate to accommodate the tubes for carrying the cooling fluid).

i. Regarding claims 37 and 44, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 36 and 43 above. Garner, as combined with Blau above, also teaches wherein a pump (101, Fig. 2) is provided for conveying cooling fluid through the channels.

j. Regarding claims 38 and 45, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 18 and 34 above. Garner, as combined with Blau above, also teaches wherein the cooling element includes a heat exchanger (“heat exchanger,” col. 2, l. 6).

k. Regarding claims 40 and 47, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 18 and 34 above. Garner, as combined with Blau above, also teaches wherein the adjusting of the temperature of ink comprises adjusting the

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temperature of rollers and cylinders of the printing mechanism with the cooling element ("circulation to the ink roller," col. 2, ll. 21-22).

1. Regarding claims 41 and 48, the combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 18 and 34 above. Garner, as combined with Blau above, also teaches wherein the cooling takes place continuously or periodically (as Garner teaches there is cooling, col. 2, ll. 1-10, the cooling must inherently take place either continuously or periodically).

4. Claims 22, 23, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blau in view of Garner as applied to claim 18 above, and further in view of Voge, US 6,516,721 B1 (hereafter Voge).

5. Regarding claim 22:

The combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above.

The combination of Blau and Garner does not teach wherein the ink temperature is adjusted in at least one of the ink supply, the metering device, and the ink nozzle of the printing mechanism by at least one heating element.

Voge teaches a printing mechanism with a heating device (70, Fig. 4) located in the ink supply (66, Fig. 4), and that heating the ink has an effect on the viscosity and consistency of the ink (col. 3, ll. 20-30).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Blau to wherein the ink temperature is adjusted in the ink supply

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of the printing mechanism by at least one heating element, because Voge teaches that heating the ink has an effect on the viscosity and consistency of the ink, and a person having ordinary skill in the art would recognize that control of the viscosity and consistency of the ink is important for obtaining satisfactory and repeatable printing results.

a. Regarding claim 23, the combination of Blau, Garner, and Voge teaches all that is claimed as discussed in the rejection of claims 18 and 34 above. Voge, as combined with Blau above, also teaches wherein the at least one heating element comprises a heating cartridge (70, Fig. 4, shows a resistor heating element).

b. Regarding claim 29, the combination of Blau, Garner, and Voge teaches all that is claimed as discussed in the rejection of claim 18 above. Voge, as combined with Blau above, also teaches heating the ink in the ink nozzle (the ink in the nozzle 36 is heated, Fig. 4).

c. Regarding claim 30, the combination of Blau, Garner, and Voge teaches all that is claimed as discussed in the rejection of claim 18 above. Voge, as combined with Blau above, also teaches detecting a temperature of the ink in the nozzle (Voge inherently detects the ink temperature, because detection of temperature would be necessary for effective control of temperature, i.e. you can't control a parameter if you don't know its current value).

6. Claims 27, 39, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blau in view of Garner as applied to claims 18 and 34 above, and further in view of Ayers et al., US 5,810,927 (hereafter Ayers).

a. Regarding claim 27:



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The combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above.

The combination of Blau and Garner does not teach wherein the at least one cooling element comprises a device producing a cooled air flow, and the ink temperature is adjusted by directing the cooled air flow toward a portion of the printing mechanism.

Ayers teaches an ink temperature control device (9, Fig. 1), including modules (10, Fig. 1) which include fans (11, Fig. 2) which blow air and create eddy current and help maintain the temperature of the ink (col. 1, ll. 37-39).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Blau to include at least one cooling element comprises a device producing a cooled air flow, and the ink temperature is adjusted by directing the cooled air flow toward a portion of the printing mechanism, because Ayers teaches that a device producing cooled air flow is advantageous for cooling the ink.

b. Regarding claims 39 and 46:

The combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claims 18 and 34 above.

The combination of Blau and Garner does not teach wherein the cooling element includes an eddy current generator.

Ayers teaches an ink temperature control device (9, Fig. 1), including modules (10, Fig. 1) which include fans (11, Fig. 2) which blow air and create eddy current and help maintain the temperature of the ink (col. 1, ll. 37-39).

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It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Blau to include at least one eddy current generator, because Ayers teaches that a device producing eddy currents is advantageous for cooling the ink.

7. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blau in view of Garner as applied to claim 18 above, and further in view of Dillig et al., US 6,024,015 (hereafter Dillig).

The combination of Blau and Garner teaches all that is claimed as discussed in the rejection of claim 18 above.

The combination of Blau and Garner does not teach measuring ink pressure before discharge from the ink nozzle.

Dillig teaches a pressurized inking system (Fig. 1), including a pressure monitor (17, Fig. 1) to ensure that an adequate ink supply is provided at all times (col. 3, l. 61 through col. 4, l. 9).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Blau to measure ink pressure before discharge from the ink nozzle, because Dillig teaches that monitoring pressure is advantageous to ensuring that the proper amount of ink is being applied at all times.

#### *Response to Arguments*

8. Applicant's arguments filed 27 September 2006 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leo T. Hinze  
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AU 2854  
08 December 2006

  
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